ASG-DataManager™ IMS/DC Interface

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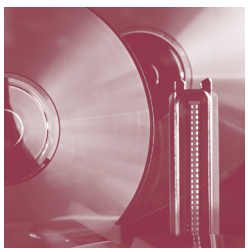

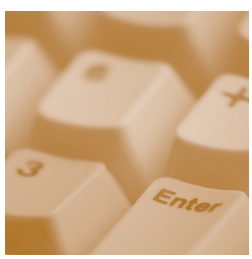

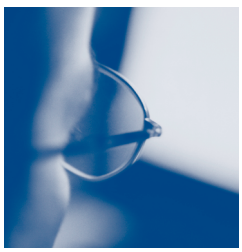

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Contents

Preface

This *ASG-DataManager IMS/DC Interface* describes the IMS/DC Interface, a facility for running ASG-DataManager and ASG-ControlManager (herein called DataManager and ControlManager, respectively) under IBM's IMS/DC teleprocessing monitor. This edition relates to Release 5.0.0 and subsequent releases of DataManager, and Release 1.0.0 and subsequent releases of ControlManager.

ControlManager is the End User Facility for the Manager Products family; thus, it is the ControlManager program that is invoked initially when running DataManager under IMS/DC. The job control requirements in this publication reflect the fact that ControlManager is used to invoke DataManager.

It is assumed that the reader has a knowledge of DataManager and is familiar with IMS/DC.

ASG welcomes your comments, as a preferred or prospective customer, on this publication or on the DataManager IMS/DC Interface.

About this Publication

The *ASG-DataManager IMS/DC Interface* publication consists of these chapters:

- Chapter 1, "Introduction," gives a brief introduction to the IMS/DC Interface Facility.
- Chapter 2, "Running ControlManager and DataManager under IMS/DC," describes how to run ControlManager and DataManager under IMS/DC and illustrates the various screen formats that are provided.
- Chapter 3, "Installation of the DataManager IMS/DC Interface," describes how to install the IMS/DC Interface.
- Chapter 4, "Modifying the DataManager IMS/DC Interface," describes how the IMS/DC Interface can be tailored to an installation's own requirements.

Publication Conventions

ASG's technical publications use these conventions:

Convention	Represents
ALL CAPITALS	Directory, path, file, dataset, member, database, program, command, and parameter names.
Initial Capitals on Each Word	Window, field, field group, check box, button, panel (or screen), option names, and names of keys. A plus sign (+) is inserted for key combinations (e.g., Alt+Tab).
`lowercase italic monospace`	Information that you provide according to your particular situation. For example, you would replace *`filename`* with the actual name of the file.
`Monospace`	Characters you must type exactly as they are shown. Code, JCL, file listings, or command/statement syntax. Also used for denoting brief examples in a paragraph.

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1 Introduction

The DataManager IMS/DC interface runs in an IMS message region and is capable of sharing the region with other IMS programs. The message formats are designed for IBM 3270 terminals. The interface must be preloaded in the message region.

The interface uses the non-overlaid versions of ControlManager and DataManager, CM00 and DMR00 respectively. CM00 can be preloaded in the message region, or loaded into the pageable link pack area, or called in from the STEPLIB datasets. The first Manager Product transaction into the message region opens the required MP-AID and dictionary datasets. For the MP-AID and dictionary datasets to be opened only once during the day, your Manager Products software must be preloaded into the message region or loaded into the pageable link pack area. Multiple dictionaries can be handled by a single message region.

An IMS/DC transaction can comprise any number of ControlManager and/or DataManager commands.

The DataManager IMS/DC interface is reusable, so that (unless otherwise determined by IMS installation macros. See Chapter 3, "Installation of the DataManager IMS/DC Interface," on page 31) any number of transactions can be processed in a single scheduling.

The DataManager IMS/DC interface provides a number of preformatted screens for ControlManager/DataManager input and output. When ControlManager /DataManager are activated the first screen displayed is a sign-on screen, after which, if the user’s authority is accepted, a selection screen is displayed, giving a menu of further screens from which a choice can be made. The user can either select the preformatted screens relevant to the commands to be issued, or can choose to enter the commands in a free form manner, using a General Input screen. The screens available are fully described in Chapter 2, "Running ControlManager and DataManager under IMS/DC," on page 3.

The Program Function keys (PFKs) are used to switch modes (for example, from reporting screens to data modification screens) and to produce screen hard copy image. The functions allotted to these keys can vary depending on which screen is current when the key is pressed. These functions, however, apply whatever screen is in use:

PFK1	Return to Sign-on screen
PFK2	Return to Selection screen
PFK4	End ControlManager/DataManager session
PFK12	Print screen image

An IMS database is employed as a Control Database to record details of each user. When any user signs on, a record is created containing:

- The logical terminal name of the user's terminal
- The name of the dictionary in use
- The user's authority
- The name of the current status, if the dictionary has named statuses
- Other information internal to the DataManager IMS/DC interface.

This Control Database is maintained in an updated state for each user. When any user signs off by pressing Program Function Key 4, that user's record is deleted. The Control Database is also used in the processing of certain screens (see Chapter 3, "Installation of the DataManager IMS/DC Interface," on page 31).

Further details of the Control Database are given in "System Definition" on page 33.

Part of the DataManager IMS/DC interface is supplied in source code, so that it can be modified to conform to the particular installation's standards (see Chapter 4, "Modifying the DataManager IMS/DC Interface," on page 35). The information given in Chapter 2, "Running ControlManager and DataManager under IMS/DC," on page 3 may need to be amended if any such local modifications have been made. **If any modifications are made to the IMS/DC interface source code for one release of DataManager, they must not be applied to a later release until they have been re-examined, and if necessary reworked, in the light of any changes to the supplied source code.**

2 Running ControlManager and DataManager under IMS/DC

Introduction

The various screens provided for running ControlManager and DataManager under IMS/DC are described in the sections of this chapter. Each screen is described in a separate section. Ruled horizontal lines in the illustrations do not appear on the screen, but indicate where information can be input by the user or may be output by your Manager Products.

The Sign-on Screen

To bring up the first screen, the Sign-on screen (Figure 1 on page 3), enter:

```
/FOR DMONOU
```

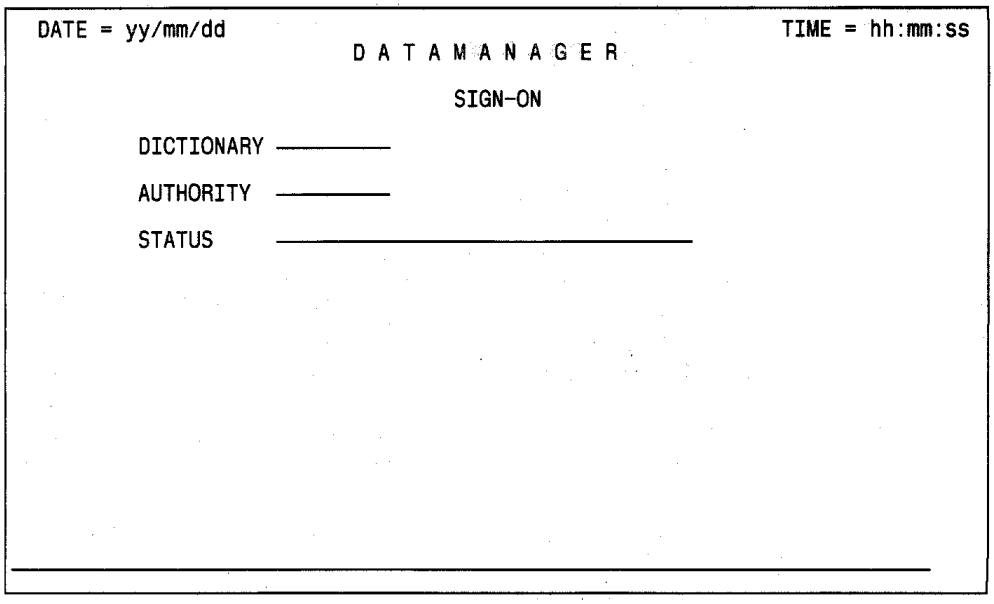

Figure 1. The Sign-on Screen

The user enters, in the positions indicated:

- Against *Dictionary*, the name of the dictionary to be accessed
- Against *Authority*, the user's password. For security reasons, this password will not appear on the screen
- Against *Status*, the name of the dictionary status in which the user requires to work. If the Status facility is not installed, or if the default status is required, this field can be omitted.

When the Enter key is pressed, the Selection screen is displayed; unless an error condition is detected, in which case the appropriate diagnostic message is displayed on the bottom line of the screen.

The Selection screen is described in "The Selection Screen" on page 4.

The user can return to the Sign-on screen at any time during the run by pressing Program Function Key 1. If the screen is returned to, the information that was on it when it was last used is again displayed. The user need change the information in only those fields the user wishes to change before again pressing Enter to bring up the Selection screen.

The Selection Screen

This screen is illustrated in Figure 2 on page 4.

```
DATE = yy/mm/dd                                          TIME = hh:mm:ss
                          D A T A M A N A G E R

                                SELECTION

FUNCTION ——   MEMBER NAME ————————————————————————————
              MEMBER TYPE ————————————————————————————
   SELECT FUNCTION CODE FROM THE FOLLOWING –
     01  ADD                (ALSO REQUIRES MEMBER NAME AND TYPE)
     02  INSERT             (ALSO REQUIRES MEMBER NAME AND TYPE)
     03  MODIFY             (ALSO REQUIRES MEMBER NAME)
     04  ALTER              (ALSO REQUIRES MEMBER NAME)
     05  REPLACE            (ALSO REQUIRES MEMBER NAME)
     06  REMOVE             (ALSO REQUIRES MEMBER NAME)
     07  SINGLE COMMANDS
     08  COPY
     09  PRODUCE
     10  QUERY                (WHAT,WHICH,WHO OWNS,WHOSE ALIAS,DOES)
     11  DOCUMENTATION        (REPORT,LIST,GLOSSARY,PRINT)
     12  MULTIPLE COMMANDS    (FOR EXAMPLE, FOR USING KEEP COMMANDS)


     DICTIONARY IS ————————    STATUS IS ————————
```

Figure 2. The Selection Screen

This screen is used:

- To select the screen, or the first screen of the set of screens, required for the next Manager Product command to be issued
- To REMOVE a member.

The user enters, in the positions indicated:

- Against *Function*, a two-digit numeric code selected from the menu displayed, to indicate the function (that is, the Manager Product command or the type of screen) required
- Against *Member Name*, only if any of the function codes 0l to 06 is selected, the member name that is to be used in the command. For function codes 0l to 06, the DataManager IMS/DC interface provides the requisite command identifier and the command terminator. For other function codes, the user ignores the member name field.
- Against *Member Type*, only if function code 0l or 02 is selected, the member type of the member that is to be ADDed or INSERTed. For an ADD or INSERT command, this is the first word of the associated member definition. For function codes other than 0l and 02, the user ignores the member type field.

When the Enter key is pressed, the user input is validated. If any errors are detected, the appropriate message is displayed on the bottom line of the screen. If no errors are detected, the response depends on the function code selected, thus:

- For 01, (ADD), the Definition Selection (1) screen is displayed. See "The Definition Selection (1) Screen" on page 6.
- For 02, (INSERT), the Definition Selection (1) screen is displayed. See "The Definition Selection (1) Screen" on page 6.
- For 03, (MODIFY), the Edit screen is displayed. See "The Edit Screen" on page 20.
- For 04, (ALTER), the Edit screen is displayed. See "The Edit Screen" on page 20.
- For 05, (REPLACE), the Edit screen is displayed. See "The Edit Screen" on page 20.
- For 06, (REMOVE), the REMOVE command is already complete on the Selection screen; so the command is actioned, and the appropriate message is output on the bottom line of the screen.
- For 07, (SINGLE COMMANDS), the Single Commands screen is displayed. See "The Single Commands Screen" on page 22.
- For 08, (COPY), the Copy screen is displayed. See "The Copy Screen" on page 23.
- For 09, (PRODUCE), the Produce screen is displayed. See "The Produce Screen" on page 25.
- For 10, (QUERY), the Interrogation screen is displayed. See "The Interrogation Screen" on page 26.
- For 11, (DOCUMENTATION), the Documentation screen is displayed. See "The Documentation Screen" on page 26.
- For 12, (MULTIPLE COMMANDS), the General Input screen is displayed. See "The Output Screen" on page 27.

The user can return to the Selection screen at any time during the run by pressing Program Function Key 2.

The Definition Selection (1) Screen

This screen is illustrated in Figure 3 on page 6.

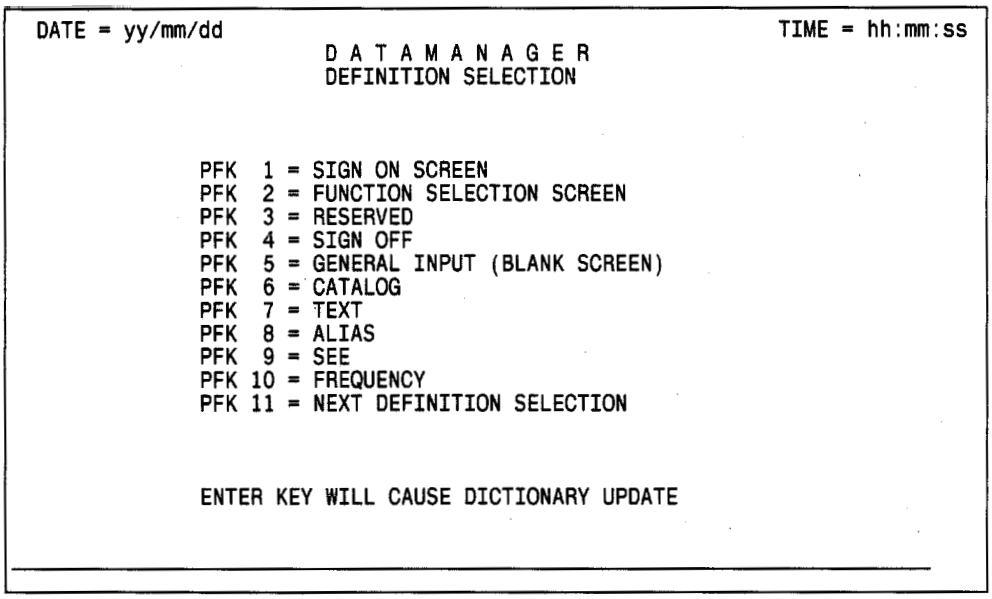

Figure 3. The Definition Selection (1) Screen

The Definition Selection (1) screen displays:

- When the user presses the Enter key from the Selection screen after entering an ADD command (by selecting function code 01) or an INSERT command (by selecting function code 02).
- When the user presses the Enter key or PFK6 from entering a member definition on any of the screens reached via the two Definition Selection screens (that is, the General Input, Catalog, Text, Alias, See, Frequency, Access Authority, Effective/Obsolete Date, or Security Classification screens).
- When the user hits PFK l1 from the Definition Selection (2) screen.

This screen can be used to select the screens required for a DataManager definition command to be completed, depending on which Program Function Key (PFK) is hit. These keys also allow the user to return to the Sign-on and Function Selection screens, or to end the ControlManager/DataManager session.

The responses for the Program Function Keys are:

- For PFK l, (SIGN ON SCREEN), the Sign-on screen is displayed. See "The Sign-on Screen" on page 3. The command is abandoned and the dictionary is not updated.
- For PFK 2, (FUNCTION SELECTION SCREEN), the Selection screen is displayed. See "The Selection Screen" on page 4. The command is abandoned and the dictionary is not updated.
- For PFK 3, (RESERVED), a diagnostic message is displayed.
- For PFK 4, (SIGN OFF), the ControlManager/DataManager session is ended. The command is abandoned and the dictionary is not updated.
- For PFK 5, (GENERAL INPUT), the General Input screen is displayed. See "The General Input Screen" on page 8.
- For PFK 6, (CATALOG), the Catalog screen is displayed. See "The Catalog Screen" on page 9.
- For PFK 7, (TEXT), the Text screen is displayed. See "The Text Screen" on page 10.
- For PFK 8, (ALIAS), the Alias screen is displayed. See "The Alias Screen" on page 12.
- For PFK 9, (SEE), the See screen is displayed. See "The See Screen" on page 13.
- For PFK 10, (FREQUENCY), the Frequency screen is displayed. See "The Frequency Screen" on page 14.
- For PFK 11, (NEXT DEFINITION SELECTION), the Definition Selection (2) screen is displayed. See "The Definition Selection (2) Screen" on page 15.

The screen is also used to update the dictionary, the ADD or INSERT command, the member name and the member type already having been entered via the Selection screen (see "The Selection Screen" on page 4). When the Enter key is pressed, the DataManager IMS/DC Interface provides the terminator and the ADD or INSERT command is executed.

If the Enter key is pressed without any further definition keywords or clauses having been written to the Control Database, the dictionary is updated with a member definition containing only the member type.

If the Enter key is pressed when the user returns to this screen after entering a member definition using any or all of the General Input, Catalog, Text, Alias, See, Frequency, Access Authority, Effective/Obsolete Date, or Security Classification screens, the dictionary is updated with a member containing whatever definition keywords and clauses have been written to the Control Database (see sections "The General Input Screen" on page 8 to "The Frequency Screen" on page 14, and "The Access Authority Screen" on page 17 to "The Security Classification Screen" on page 19).

After the Enter key is pressed, the Output screen (see "The Output Screen" on page 27) is displayed, containing the response from ControlManager/DataManager.

If the response on the Output screen indicates any error condition, the user can call the original input back for correction on the Edit screen (see "The Edit Screen" on page 20) by pressing the Enter key.

The General Input Screen

This screen is illustrated in Figure 4 on page 8.

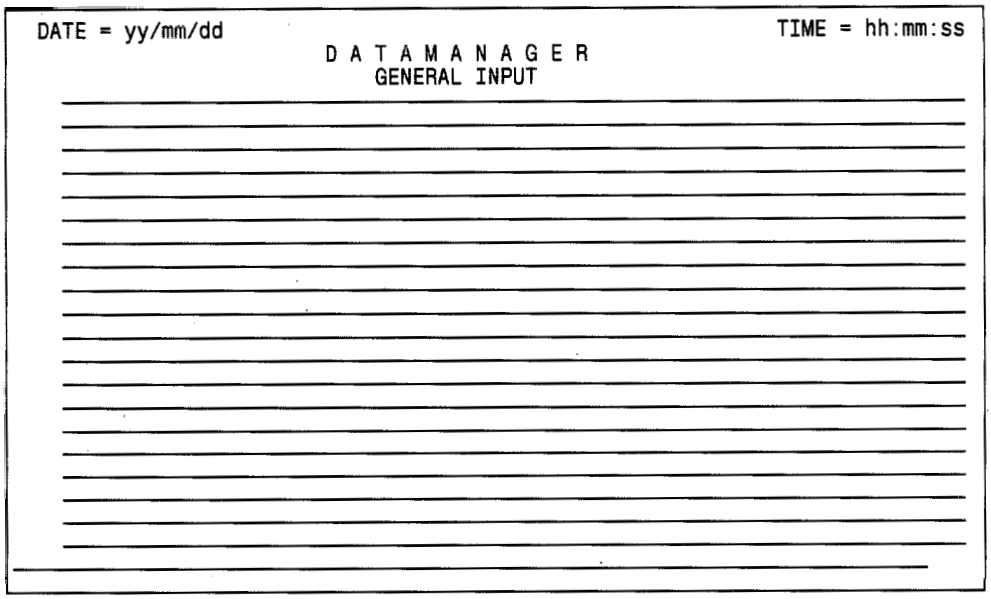

Figure 4. The General Input Screen

The General Input screen displays:

- When the user presses PFK 5 from the Definition Selection (1) screen
- When the user presses the Enter key from a Selection screen, after having selected function code 12. (See "The Selection Screen" on page 4). In this case, the screen can be used to enter any command or any series of commands.

When selected by PFK 5 from the Definition Selection (1) screen, the General Input screen can be used to enter any member definition associated with an ADD or INSERT command. It may be used:

- To complete a member definition where some of the clauses have already been input via the preformatted screens. See sections "The Catalog Screen" on page 9 to "The Frequency Screen" on page 14 and "The Access Authority Screen" on page 17 to "The Security Classification Screen" on page 19.
- To complete a member definition when the member type only has been entered via the Selection screen (see "The Selection Screen" on page 4).

Pressing PFK 5 writes the input to the Control Database and displays a farther General Input screen, so that the definition can be continued.

When the definition is complete, pressing PFK 6 or the Enter key writes the final part of the input to the Control Database and the Definition Selection (1) screen is displayed. From here the user may either input additional data via the preformatted screens or, if the General Input screen constitutes the final or sole part of the member definition, update the dictionary [see "The Definition Selection (1) Screen" on page 6]. Since the definition terminator is provided at the dictionary updating stage, it is not necessary to supply a terminator during the input of data to the General Input screen.

When selected by function code 12 from the Selection screen, the General Input screen can be used to enter a ControlManager or DataManager command or series of commands, together with any associated data definitions or amendments. Pressing PFK 5 writes the input to the Control Database and displays a further General Input screen. When the required input is completed, the user presses the Enter key. The command or the series of commands is then put into action from the Control Database. Output generated by the command or commands is displayed on the Output screen (see "The Output Screen" on page 27). If the user, after reviewing the output, wishes to review or edit the commands, the user may recall the commands to the Edit screen by pressing the Enter key from any of the Output screens.

The Catalog Screen

This screen is illustrated in Figure 5 on page 9.

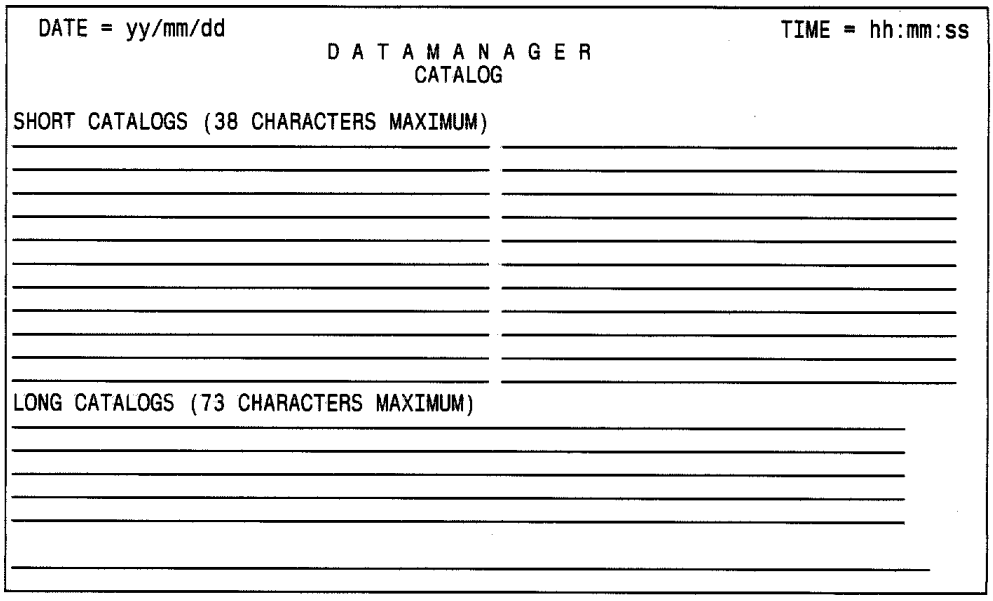

Figure 5. The Catalog Screen

The Catalog screen is displayed when the user presses PFK 6 from the Definition Selection (1) screen.

There is provision on the screen for 24 short catalog classifications of up to 38 characters each, and five long classifications of up to 73 characters each. The user keys in the classifications required, without delimiters. The DataManager IMS/DC interface provides a CATALOGUE keyword, the delimiters and any commas required as separators.

Pressing PFK 5 writes the screen to the Control Database, and displays a further Catalog screen, so that the CATALOGUE clause can be continued. This can be repeated as often as is necessary to complete the CATALOGUE clause. Unused classification positions on any screen are disregarded.

When the clause is complete, pressing PFK 6 or the Enter key writes the final part of the input to the Control Database and Definition Selection (1) screen is displayed. From here the user may either input additional data via the General Input or preformatted screens (see "The General Input Screen" on page 8 to "The Frequency Screen" on page 14 and "The Access Authority Screen" on page 17 to "The Security Classification Screen" on page 19) or, if the Catalog screen constitutes the final or sole part of the member definition, update the dictionary. Since the definition terminator is provided at the dictionary updating stage, it is not necessary to supply a terminator during the input of data to the Catalog screen.

The Text Screen

This screen is illustrated in Figure 6 on page 10.

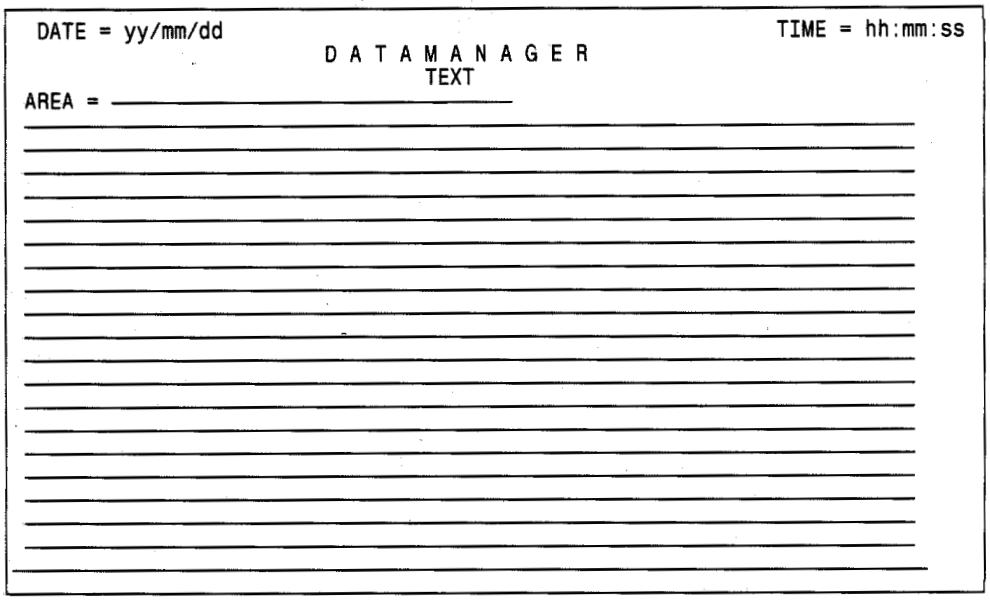

Figure 6. The Text Screen

The Text screen is displayed when the user presses PFK 7 from the Definition Selection (1) screen.

This screen can be used to input any of the text clauses of a member definition; that is, ADMINISTRATIVE-DATA, COMMENT, DESCRIPTION, NOTE, and QUERY, as well as any User Defined text attributes. The user keys in the required keyword against the screen prompt "Area =" and begins input of the character strings on the next line as free form text. The DataManager IMS/DC interface provides a double quote delimiter immediately before the first and immediately after the last character keyed on each line, down to the last line used. Up to a maximum of 71 characters can be keyed on each line. Although delimiters do not have to be entered at the start and end of each line, the user can enter delimiters within a line if it is necessary to have two or more delimited character strings on the same line.

Pressing PFK 5 writes the screen to the Control Database and displays another blank Text screen. The user can then either:

- Continue entering the same text clause, or
- Enter a new text keyword against the screen prompt "Area =" and proceed to enter the data associated with the new clause.

When the required clauses have been completed, pressing PFK 6 or the Enter key writes the final part of the input to the Control Database and the Definition Selection (1) screen is displayed. From here the user may either input additional data via the General Input or preformatted screens (see "The General Input Screen" on page 8 to "The Frequency Screen" on page 14 and "The Access Authority Screen" on page 17 to "The Security Classification Screen" on page 19) or, if the Text screen Input constitutes the final or sole part of the member definition, update the dictionary (see "The Definition Selection (1) Screen" on page 6). Since the definition terminator is provided at the dictionary updating stage, it is not necessary to supply a terminator during the input of data to the Text screen.

The Alias Screen

This screen is illustrated in Figure 7 on page 12. The illustration shows the screen format as supplied by ASG; the format may be tailored to reflect the alias type keywords available in the particular installation (see Chapter 4).

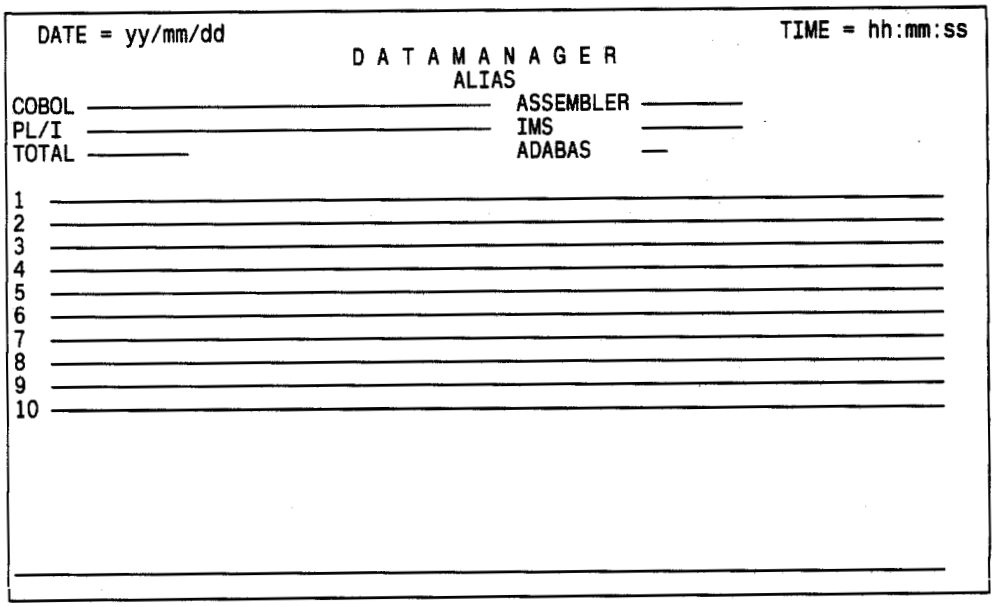

Figure 7. The Alias Screen

The Alias screen is displayed when the user presses PFK 8 from the Definition Selection (1) screen.

The user can enter specific aliases against the relevant alias type keywords, and/or general aliases against the numerals displayed. Aliases are entered without delimiters. The DataManager IMS/DC interface provides the ALIAS keyword, the delimiters, those of the displayed alias type keywords that are relevant to the user's input, and any commas required as separators.

When the clause is complete, pressing PFK 6 or the Enter key writes the input to the Control Database and the Definition Selection (1) screen is displayed. From here the user may either input additional data via the General Input or preformatted screens (see "The General Input Screen" on page 8 to "The Frequency Screen" on page 14 and "The Access Authority Screen" on page 17 to "The Security Classification Screen" on page 19) or, if the Alias screen constitutes the final or sole part of the member definition, update the dictionary [see "The Definition Selection (1) Screen" on page 6]. Since the definition terminator is provided at the dictionary updating stage, it is not necessary to supply a terminator during the input of data to the Alias screen.

The See Screen

This screen is illustrated in Figure 8 on page 13.

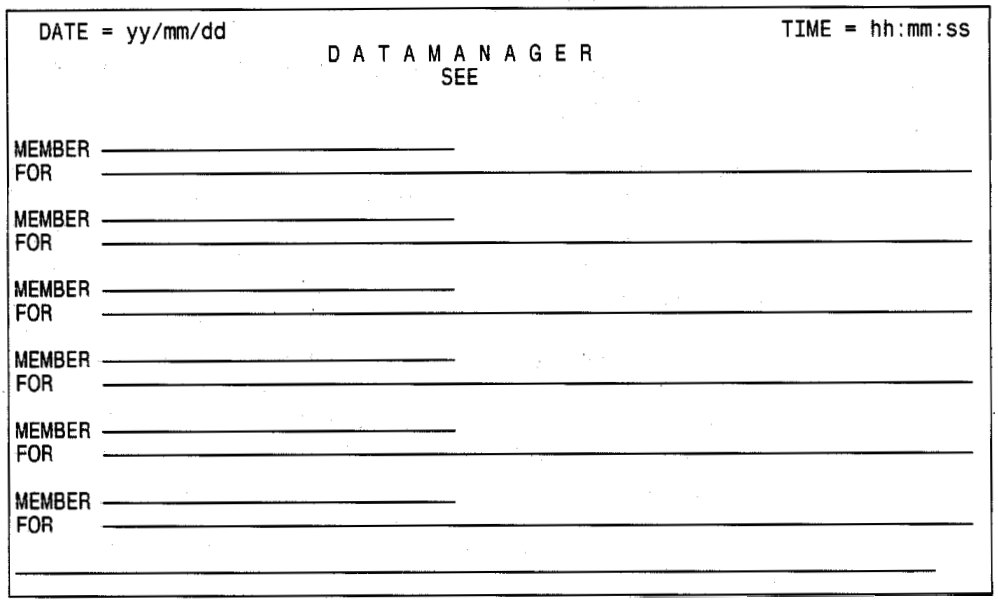

Figure 8. The See Screen

The See screen is displayed when the user presses PFK 9 from the Definition Selection (1) screen.

This screen can be used to input the SEE clause of a definition; The User enters the required member name after the prompt MEMBER on the screen and optionally completes the clause by entering the appropriate character string after the FOR keyword. The DataManager IMS/DC interface provides the SEE and FOR keywords, the delimiters, and any commas required as separators. The FOR keyword is only supplied where the user has input a character string after the FOR keyword on the screen.

Pressing PFK 5 writes the input to the Control Database and displays a further See screen.

When the clause is complete, pressing PFK 6 or the Enter key writes the final part of the input to the Control Database and the Definition Selection (1) screen is displayed. From here the user may either input additional data via the General Input or preformatted screens (see "The General Input Screen" on page 8 to "The Frequency Screen" on page 14 and "The Access Authority Screen" on page 17 to "The Security Classification Screen" on page 19) or, if the See screen constitutes the final or sole part of the member definition, update the dictionary [see "The Definition Selection (1) Screen" on page 6]. Since the definition terminator is provided at the dictionary updating stage, it is not necessary to supply a terminator during the input of data to the See screen.

The Frequency Screen

This screen is illustrated in Figure 9 on page 14.

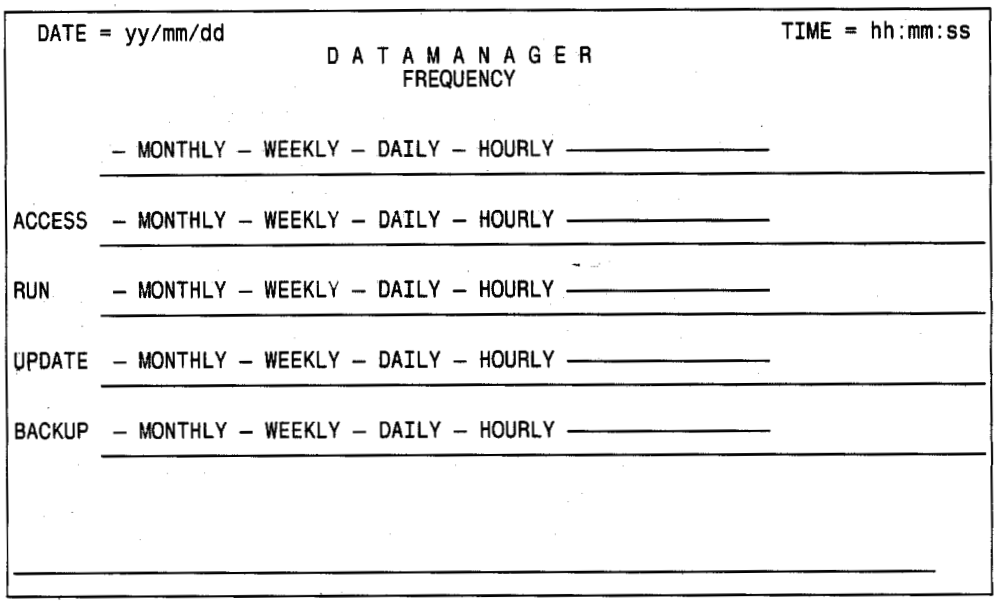

Figure 9. The Frequency Screen

The Frequency screen is displayed when the user presses PFK 10 from the Definition Selection (1) screen.

This screen can be used to input the FREQUENCY clause of a definition; that is, one frequency specification or any number of ACCESS, RUN, UPDATE or BACKUP subordinate clauses. The frequency specification is input by any combination of the following:

- Keying any character into the space preceding one only of the first set of MONTHLY, WEEKLY, DAILY or HOURLY keywords
- Keying the required numeric data into the spaces following the HOURLY keyword
- Keying the required character string on the next line.

The ACCESS, RUN, UPDATE, or BACKUP subsidiary clauses are input in the same manner as a frequency specification, but on the screen input lines preceded by the relevant keyword. Any number of these subsidiary clauses may be entered, using further Frequency screens.

The DataManager IMS/DC interface provides the FREQUENCY keyword, the subsidiary keywords as indicated on the screen, the character string delimiters and any commas required as separators.

Pressing PFK 5 writes the input to the Control Database and displays a further Frequency screen.

When the clause is complete, pressing PFK 6 or the Enter key writes the input to the Control Database and the Definition Selection (1) screen is displayed. From here the user may either input additional data via the General Input or preformatted screens (see "The General Input Screen" on page 8 to "The Frequency Screen" on page 14 and "The Access Authority Screen" on page 17 to "The Security Classification Screen" on page 19) or, if the Frequency screen constitutes the final or sole part of the member definition, update the dictionary [see "The Definition Selection (1) Screen" on page 6]. Since the definition terminator is provided at the dictionary updating stage, it is not necessary to supply a terminator during the input of data to the Frequency screen.

The Definition Selection (2) Screen

This screen is illustrated in Figure 10 on page 15.

```
DATE = yy/mm/dd                                          TIME = hh:mm:ss
                        D A T A M A N A G E R
                        DEFINITION SELECTION


              PFK  1 = SIGN ON SCREEN
              PFK  2 = FUNCTION SELECTION SCREEN
              PFK  3 = RESERVED
              PFK  4 = SIGN OFF
              PFK  5 = ACCESS AUTHORITY
              PFK  6 = EFFECTIVE/OBSOLETE DATES
              PFK  7 = SECURITY CLASSIFICATION
              PFK  8 = RESERVED
              PFK  9 = RESERVED
              PFK 10 = RESERVED
              PFK 11 = NEXT DEFINITION SELECTION


              ENTER KEY WILL CAUSE DICTIONARY UPDATE
```

Figure 10. The Definition Selection (2) Screen

The Definition Selection (2) screen is displayed when the user presses PFK 11 from the Definition Selection (1) screen.

This screen can be used to select the screen required for a DataManager definition command to be issued, depending on which Program Function Key (PFK) is pressed.

The responses for the Program Function Keys are:

- For PFK 1, (SIGN ON SCREEN), the Sign-on screen is displayed. See "The Sign-on Screen" on page 3. The command is abandoned and the dictionary is not updated.

- For PFK 2, (FUNCTION SELECTION SCREEN), the Selection screen is displayed. See "The Selection Screen" on page 4. The command is abandoned and the dictionary is not updated.
- For PFK 3, (RESERVED), a diagnostic message is displayed.
- For PFK 4, (SIGN OFF), the ControlManager/DataManager session is ended. The command is abandoned and the dictionary is not updated.
- For PFK 5, (ACCESS AUTHORITY), the Access Authority screen is displayed. See "The Access Authority Screen" on page 17.
- For PFK 6, (EFFECTIVE/OBSOLETE DATE), the Effective/Obsolete Date screen is displayed. See "The Effective/Obsolete Date Screen" on page 18.
- For PFK 7, (SECURITY CLASSIFICATION), the Security Classification screen is displayed. See "The Security Classification Screen" on page 19.
- For PFK 8, (RESERVED), a diagnostic message is displayed.
- For PFK 9, (RESERVED), a diagnostic message is displayed.
- For PFK 10, (RESERVED), a diagnostic message is displayed.
- For PFK 11, (NEXT DEFINITION SELECTION), the Definition Selection (1) screen is displayed. See "The Definition Selection (1) Screen" on page 6.

The screen is also used to update the dictionary, the ADD or INSERT command, the member name and the member type already having been entered via the Selection screen (see "The Selection Screen" on page 4). When the Enter key is pressed, the DataManager IMS/DC interface provides the terminator and the ADD or INSERT command is executed.

If the Enter key is pressed without any further definition keywords or clauses having been written to the Control Database, the dictionary is updated with a member definition containing only the member type.

If the Enter key is pressed when the user returns to this screen after entering a member definition using any or all of the General Input, Catalog, Text, Alias, See, Frequency, Access Authority, Effective/Obsolete Date, or Security Classification screens, the dictionary is updated with a member containing whatever definition keywords and clauses have been written to the Control Database (see "The General Input Screen" on page 8 to "The Frequency Screen" on page 14 and "The Access Authority Screen" on page 17 to "The Security Classification Screen" on page 19).

After the Enter key is pressed, output from ControlManager/DataManager is displayed on the Output screen (see "The Output Screen" on page 27).

If the response on the Output screen indicates any error condition, the user can call the original input back for correction on the Edit screen (see "The Edit Screen" on page 20) by pressing the Enter key.

The Access Authority Screen

This screen is illustrated in Figure 11 on page 17.

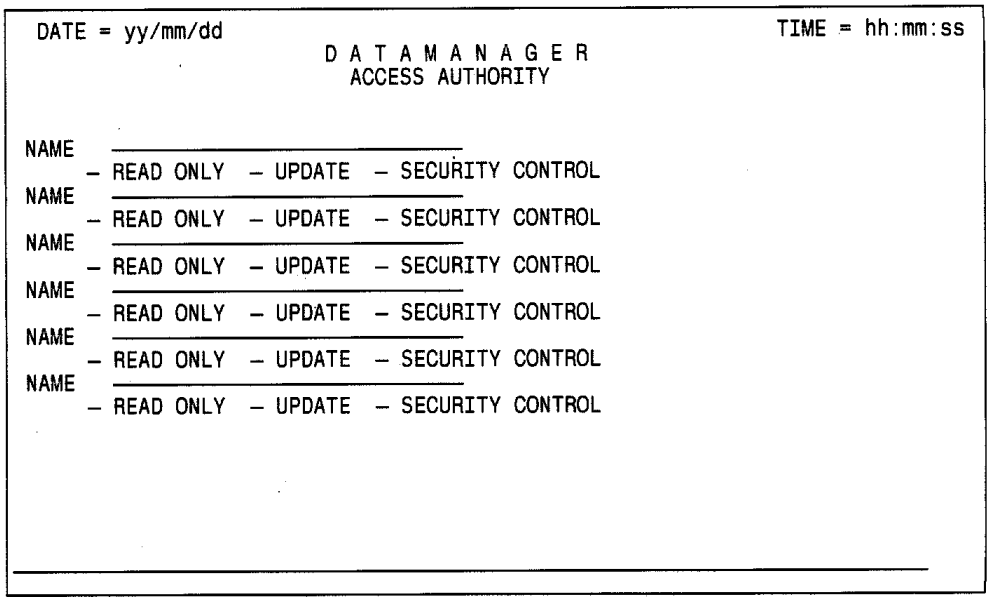

Figure 11. The Access Authority Screen

The Access Authority screen is displayed when the user presses PFK 5 from the Definition Selection (2) screen.

This screen can be used to input the ACCESS-AUTHORITY clause of a definition. The user enters the required user or owner name after the NAME prompt and optionally completes the clause by keying any character into the space preceding one of the READ-ONLY, UPDATE, or SECURITY-CONTROL keywords. This may be repeated until the screen is complete. The DataManager IMS/DC interface provides the ACCESS-AUTHORITY keyword and the READ-ONLY, UPDATE, or SECURITY-CONTROL keywords as indicated, the delimiters and any commas required as separators.

Pressing PFK 5 writes the input to the Control Database and displays a further Access Authority screen.

When the clause is complete, pressing PFK 6, or the Enter key writes the final part of the input to the Control Database and the Definition Selection (1) screen is displayed. From here the user may either input additional data via the General Input or preformatted screens (see "The General Input Screen" on page 8 to "The Frequency Screen" on page 14 and "The Access Authority Screen" on page 17 to "The Security Classification Screen" on page 19) or, if the Access Authority screen constitutes the final or sole part of the member definition, update the dictionary [see "The Definition Selection (2) Screen" on page 15]. Since the definition terminator is provided at the dictionary updating stage, it is not necessary to supply a terminator during the input of data to the Access Authority screen.

The Effective/Obsolete Date Screen

This screen is illustrated in Figure 12 on page 18.

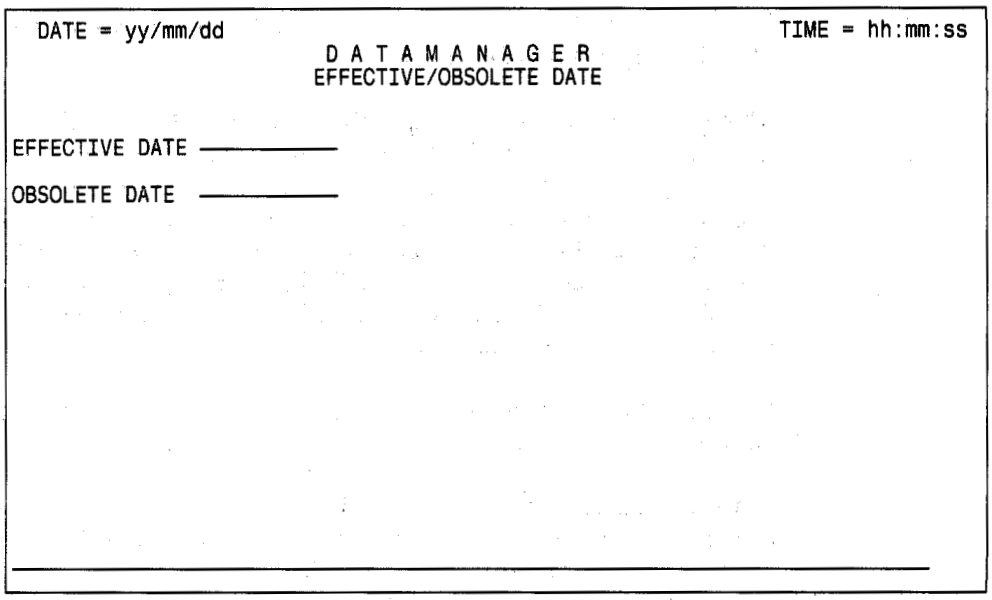

Figure 12. The Effective/Obsolete Date Screen

The Effective/Obsolete Date screen is displayed when the user presses PFK 6 from the Definition Selection (2) screen.

This screen can be used to enter the EFFECTIVE-DATE and the OBSOLETE-DATE clauses of a definition. The user enters the required date in a valid format next to the appropriate keyword. The DataManager IMS/DC interface provides the EFFECTIVE-DATE or OBSOLETE-DATE keyword; any delimiting quotes which are mandatory according to the specification of a valid date format must, however, be input by the user.

When the clause is complete, pressing PFK 6 or the Enter key writes the input to the Control Database and the Definition Selection (1) screen is displayed. From here the user may either input additional data via the General Input or preformatted screens (see "The General Input Screen" on page 8 to "The Frequency Screen" on page 14 and "The Access Authority Screen" on page 17 to "The Security Classification Screen" on page 19) or, if the Effective/Obsolete Date screen constitutes the final or sole part of the member definition, update the dictionary [see "The Definition Selection (2) Screen" on page 15]. Since the definition terminator is provided at the dictionary updating stage, it is not necessary to supply a terminator during the input of data to the Effective/Obsolete Date screen.

The Security Classification Screen

This screen is illustrated in Figure 13 on page 19.

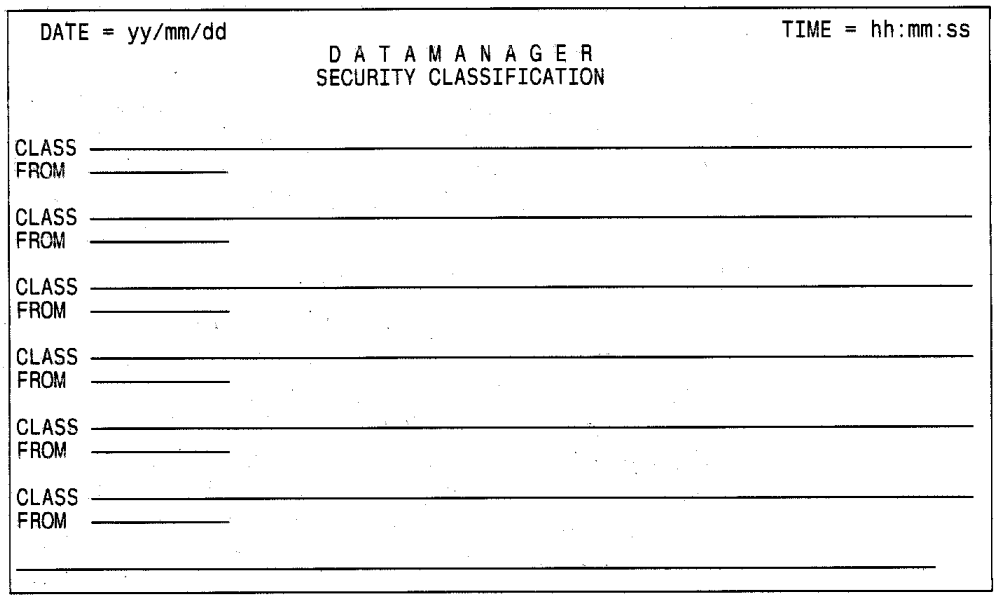

Figure 13. The Security Classification Screen

The Security Classification screen is displayed when the user presses PFK 7 from the Definition Selection (2) screen.

This screen can be used to enter the SECURITY-CLASSIFICATION clause of a definition. The user enters the appropriate character string after the CLASS prompt and optionally completes the clause by entering a date in a valid date format after the keyword FROM. This may be repeated until the screen is complete. The DataManager IMS/DC interface provides the SECURITY-CLASSIFICATION keyword, the character string delimiters, and any commas required as separators. The FROM keyword is only supplied where the user has input a date after the FROM keyword on the screen; any delimiting quotes which are mandatory according to the specification of a valid date format must, however, be input by the user.

Pressing PFK 5 writes the input to the Control Database and displays a further Security Classification screen.

When the clause is complete, pressing PFK 6 or the Enter key writes the final part of the input to the Control Database and the Definition Selection (1) screen is displayed. From here the user may either input additional data via the General input or preformatted screens (see "The General Input Screen" on page 8 to "The Frequency Screen" on page 14 and "The Access Authority Screen" on page 17 to "The Security Classification Screen" on page 19) or, if the Security Classification screen constitutes the final or sole part of the member definition, update the dictionary [see "The Definition Selection (2) Screen" on page 15]. Since the definition terminator is provided at the dictionary updating stage, it is not necessary to supply a terminator during the input of data to the Security Classification screen.

The Edit Screen

This screen is illustrated in Figure 14 on page 20.

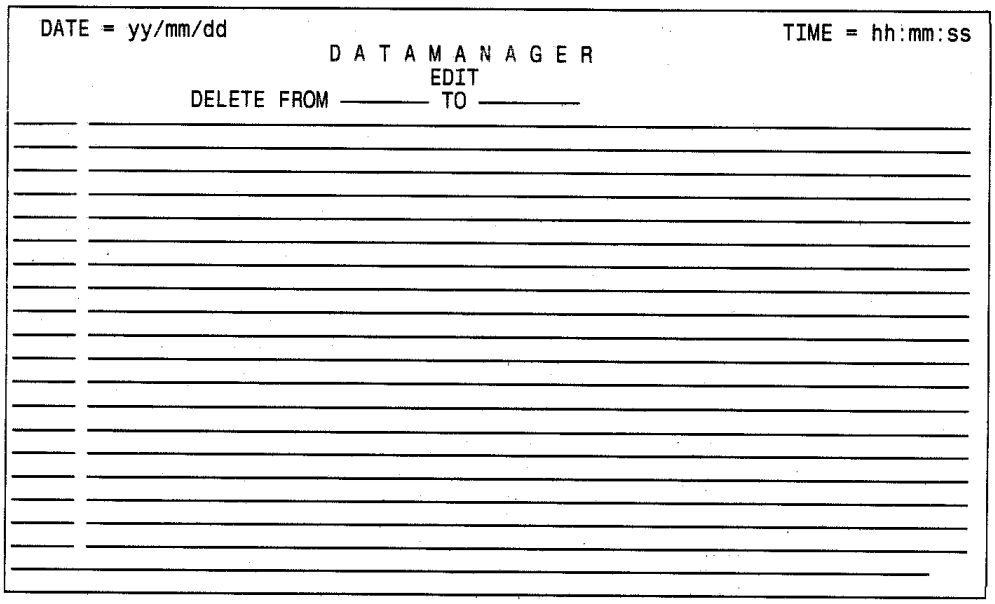

Figure 14. The Edit Screen

The Edit screen is displayed when:

- The user presses the Enter key from a Selection screen, after having selected function code 03 (MODIFY), 04 (ALTER), or OS (REPLACE)
- The user presses the Enter from an Output screen (see "The Output Screen" on page 27).

When the Edit screen is displayed following a Selection screen, a copy of the member named on the Selection screen is written to the Control Database. All editing is performed on this copy (as described below) until the user presses the Enter key. The updated copy is then written back to the source dataset, replacing the member's previous source record. Thus, when the Edit screen is employed, the MODIFY, ALTER, and REPLACE commands all involve an editing of a copy of the member's source record off-line from the dictionary, followed by a replacement of the source record; for the MODIFY and REPLACE commands, the updated member is then encoded. The only difference in operation between the MODIFY and REPLACE command is that with the REPLACE command the lines of the source record are renumbered as they are written to the dictionary; with the MODIFY and ALTER commands the lines are not renumbered.

When the Edit screen is displayed following a Selection screen, it contains a copy of the named member's record (or the first 19 lines of the record) as copied to the Control Database. If the record is longer than one screen can hold, the user can page through it to locate the editing points, by use of the Program Function Keys.

Thus:

- Program Function Key 5: process changes and return to next page.
- Program Function Key 6: process changes and return to first page
- Program Function Key 7: process changes and return to same page

Editing is performed on a displayed page thus:

- To add a new line, key the new line with its line number either into a blank line or over any existing line. The new line is added in the correct line number position; if it was typed over an existing line, that line is not affected.
- To duplicate a line, key the new line number over the existing line number. A copy of the existing line but with the new line number is inserted in the correct position; the original existing line is not affected.
- To delete a line, enter the number of the line to be deleted in the field following DELETE FROM
- To delete a range of lines, enter the number of the first line to be deleted in the field following DELETE FROM, and the number of the last line to be deleted in the field following TO. (The line numbers entered do not have to exist in the member's record; whether or not those line numbers exist, all lines with numbers in the specified range are deleted.)
- To amend a line, key the changes into the line without changing the line number.

When all changes have been completed, the user presses the Enter key. The updated copy is written from the Control Database to the dictionary as described earlier in this section; and the Output screen (see "The Output Screen" on page 27) is displayed, containing the output from ControlManager/DataManager.

The maximum size of member that can be updated via the Edit screen is determined by the IMSALI macro (see "Modifying the IMSALI Macro" on page 38).

If the Edit screen is displayed following an Output screen, it contains a copy (obtained from the Control Database) of the last input. This input may be a member definition or a command or a series of commands. The user can edit the input as may be necessary, and resubmit it by pressing the Enter key.

The Single Commands Screen

This screen is illustrated in Figure 15 on page 22.

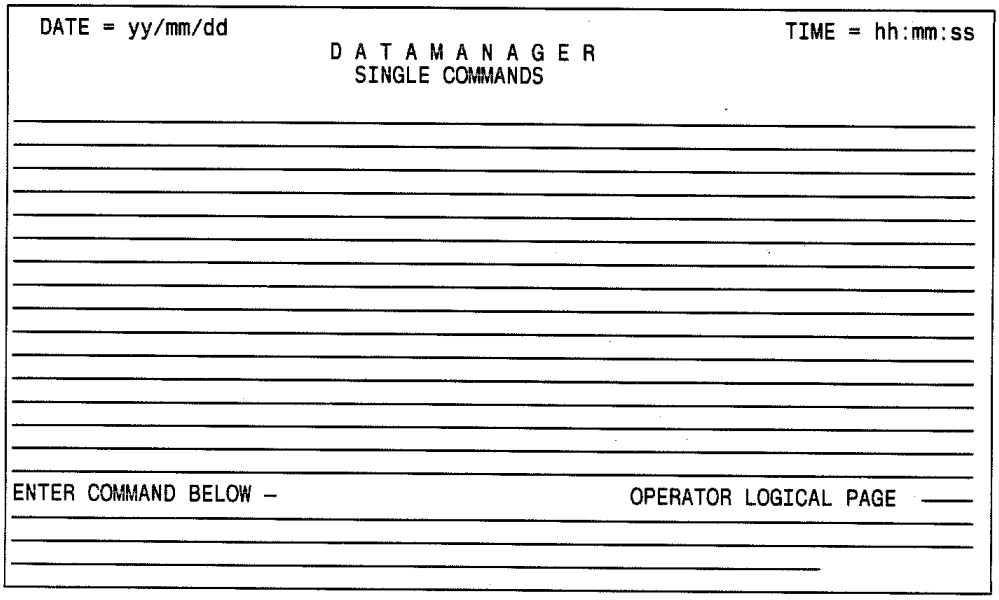

Figure 15. The Single Commands Screen

The Single Commands screen is displayed when the user presses the Enter key from a Selection screen, after having selected function code 07.

The Single Commands screen can be used to issue any single ControlManager or DataManager command, provided that the command does not exceed 225 characters, excluding the final terminator. The final terminator is provided by the DataManager IMS/DC interface.

The user keys in the command excluding the final terminator on the bottom three lines of the screen and pressing the Enter key. The output from ControlManager/DataManager is then displayed in the upper portion of the screen. The user's input is saved at the bottom of the screen so if necessary it can be changed and resubmitted (by again pressing the Enter key).

If the output from ControlManager/DataManager is too long to be held completely in the upper part of the screen, the user can page through it by means of the Program Access Keys. Thus:

- Program Access Key 1: display next page
- Program Access Key 2: cancel remaining queued output pages from the message queue

or by keying the appropriate input (as described in the table below) next to the screen prompt `Operator Logical Page` (unless otherwise determined on IMS installation).

Operator Logical Page Commands

Input	Result
All input must be followed by a space character.	
=	Displays next page of output
=*n* or =*nn* or =*nnn*	Displays specific logical page
=+*n* or =+*nn* or =+*nnn*	Displays *n*th page past current page
=-*n* or =-*nn* or =-*nnn*	Displays *n*th page before current page
=L	Displays last page

The MANAGER Product output buffer size is determined by the IMSALI macro (see "Modifying the IMSALI Macro" on page 38). If the output is greater than this, the end of the output is lost.

At any time that the user has seen sufficient of the output, a new command can be entered on the bottom three lines and the Enter key pressed. The DataManager IMS/DC Interface then purges the output from the old command, and displays the response to the new command. Alternatively, Program Function Key 2 can be used to return to the Selection screen, or Program Function Key I can be used to return to the Sign-on screen.

The Copy Screen

This screen is illustrated in Figure 16 on page 24.

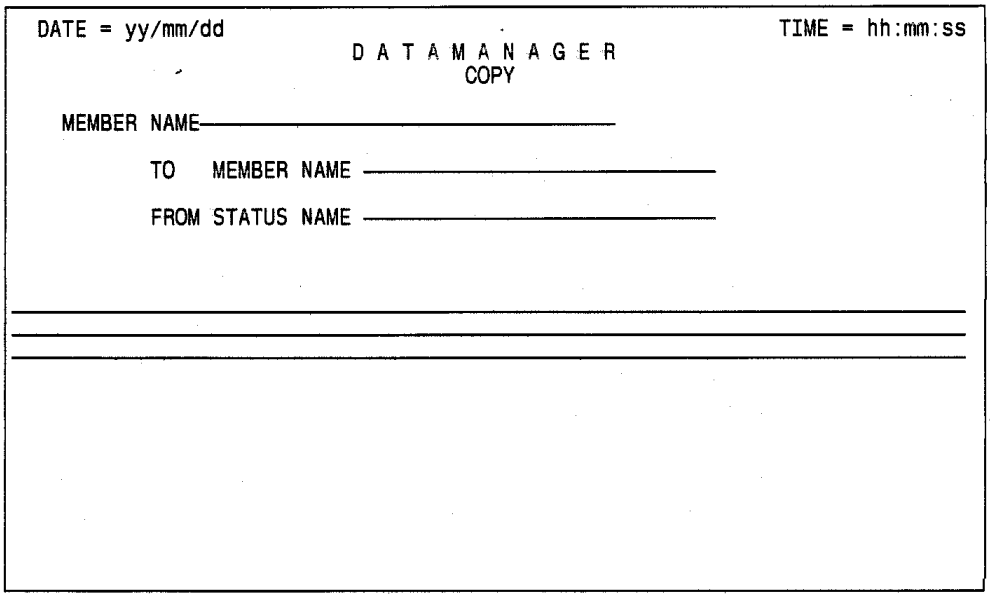

Figure 16. The Copy Screen

The Copy screen is displayed when the user presses the Enter key from a Selection screen, after having selected function code 08.

The screen is used to issue a COPY command. The user keys in, in the indicated fields:

- The name of the member to be copied, and
- Either:
  - The name by which the new member is to be known, or
  - The name of the status from which the member is to be copied.

Only one of these two fields must be entered. The DataManager IMS/DC interface provides the command terminator.

When the Enter key is pressed the command is actioned and the output from ControlManager/DataManager is displayed on the following lines of the screen.

The user can then issue a further COPY command via the Copy screen, or can return to the Selection screen by pressing Program Function Key 2, or can return to the Sign-on screen by pressing Program Function Key 1.

The Produce Screen

This screen is illustrated in Figure 17 on page 25.

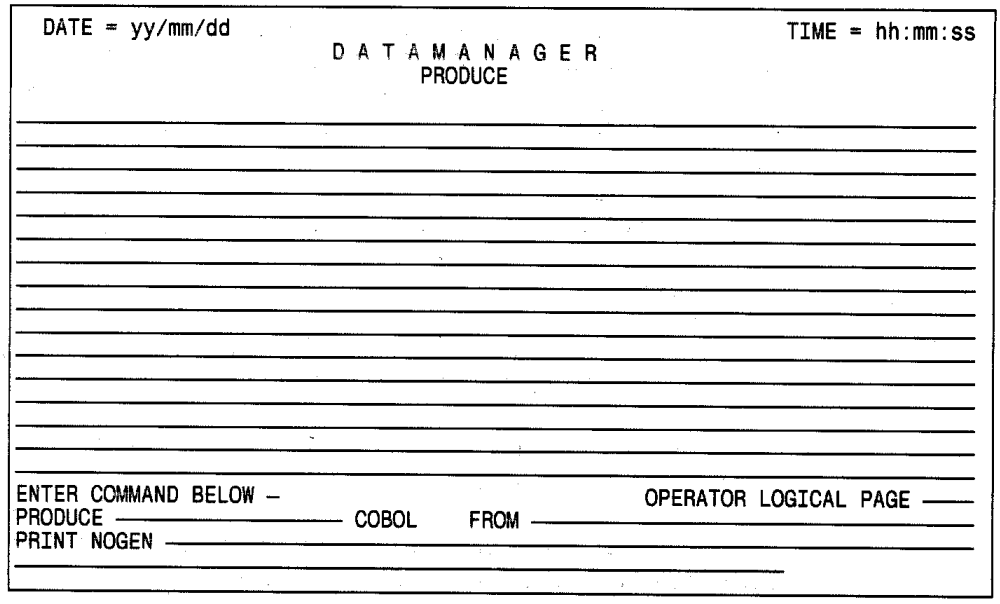

Figure 17. The Produce Screen

The Produce screen is displayed when the user presses the Enter key from a Selection screen, after having selected function code 09.

The Produce screen is used to issue a PRODUCE command. The user completes the command on the bottom three lines of the screen, and presses the Enter key. The DataManager IMS/DC interface provides the command identity PRODUCE, the COBOL, FROM, PRINT and NOGEN keywords, and the terminator. The user may optionally enter the keywords RECORD and AND or FOR between PRODUCE and COBOL if record layouts are required. None of the keywords provided on the command line is protected so that the user may change them if required. When the Enter key is pressed, the DataManager IMS/DC interface provides the terminator to the completed command, which is executed in the form in which it appears on the bottom three lines of the screen. The screen then operates in the same way as the Single Commands screen. See "The Single Commands Screen" on page 22.

A maximum of 255 characters can be keyed in. If the command requires more than 255 characters to be keyed in, the General Input screen must be used instead (selected by function code 12 on the Selection screen).

The Interrogation Screen

This screen is illustrated in Figure 18 on page 26.

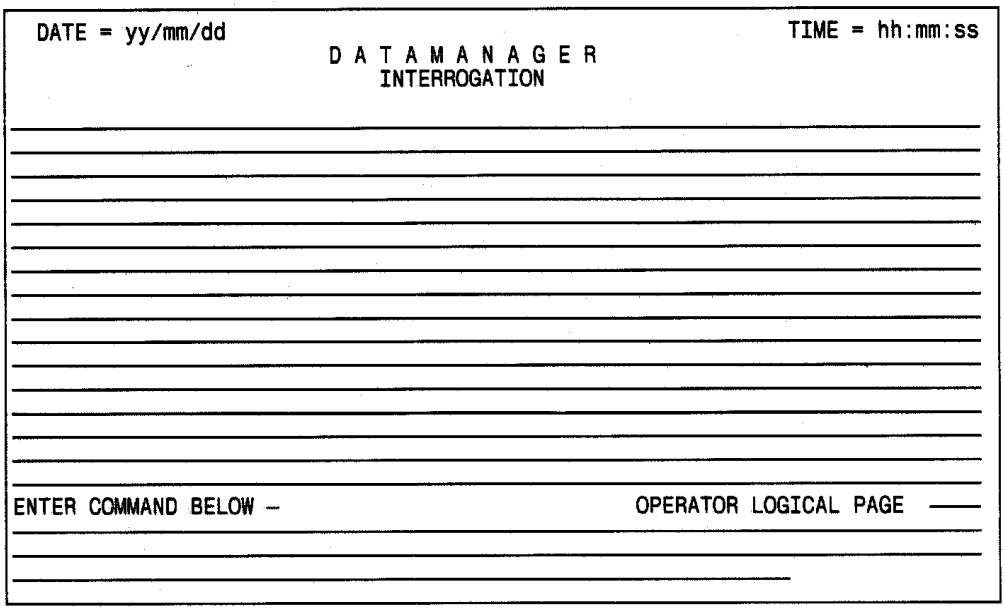

Figure 18. The Interrogation Screen

The Interrogation screen is displayed when the user presses the Enter key from a Selection screen, after having selected function code 10.

The Interrogation screen can be used to issue any interrogation command. The user keys in the command, excluding the terminator, and presses the Enter key. The DataManager IMS/DC interface provides the terminator. The screen then operates in the same way as the Single Commands screen. See "The Single Commands Screen" on page 22.

A maximum of 255 characters can be keyed in. If the command requires more than 255 characters to be keyed in, the General Input Screen must be used instead (selected by function code 12 on the Selection screen).

The Documentation Screen

This screen is illustrated in Figure 19 on page 27.

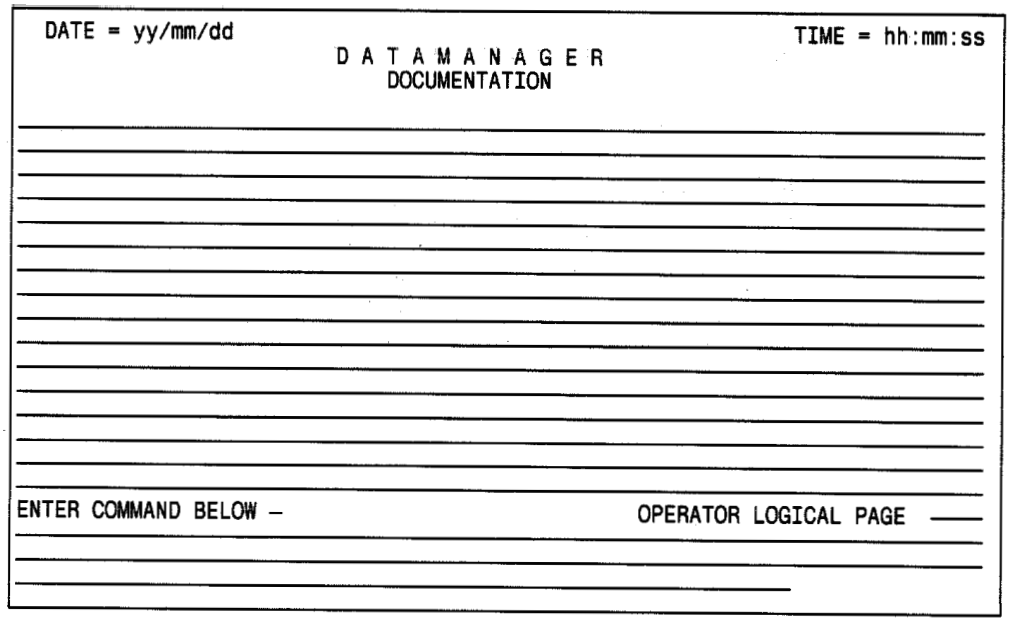

Figure 19. The Documentation Screen

The Documentation screen is displayed when the user presses the Enter key from a Selection screen, after having selected function code 11.

The Documentation screen can be used to issue any documentation command. The user keys in the command, excluding the terminator, and presses the Enter key. The DataManager IMS/DC interface provides the terminator. The screen then operates in the same way as the Single Commands screen. See "The Single Commands Screen" on page 22.

A maximum of 255 characters can be keyed in. If the command requires more than 255 characters to be keyed in, the General Input screen must be used instead (selected by function code 12 on the Selection screen).

The Output Screen

This screen is illustrated in Figure 20 on page 28.

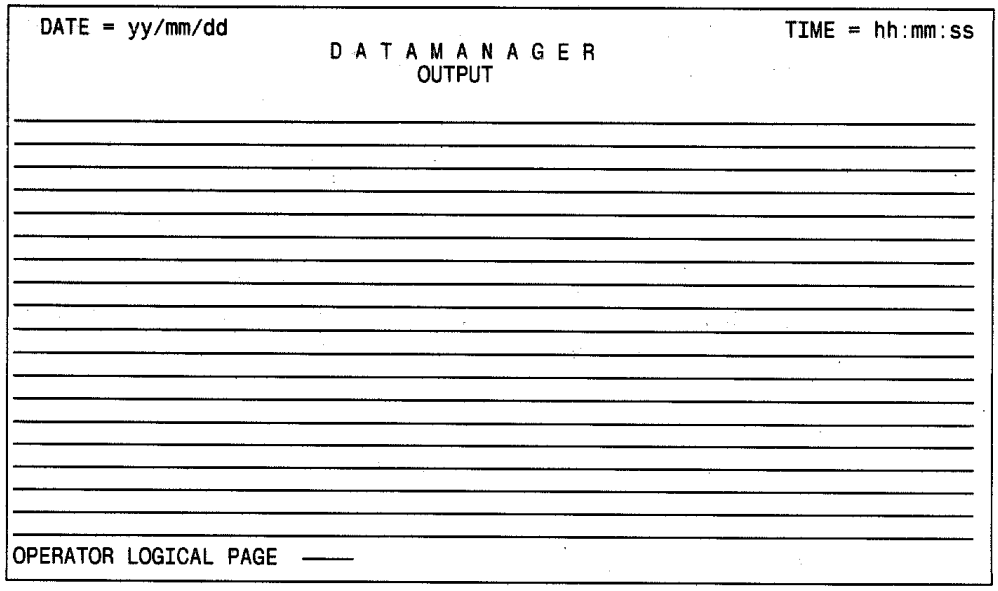

Figure 20. The Output Screen

The Output screen is displayed when the user presses the Enter key from:

- A General Input screen, or
- An Edit screen, or
- Either of the two Definition Selection screens.

The Output screen displays MANAGER Product output when the your input is entered via a General Input Screen (when selected by function code 12), or via an Edit screen, or via the General Input or preformatted definition screens (when selected via the Definition Selection screens).

If the output is too long to be held completely in the upper part of the screen, the user can page through it, thus:

- Program Access Key 1: display next page
- Program Access Key 2: cancel remaining queued output pages from the message queue

or by keying the appropriate input, as described in the table called "Operator Logical Page Commands" on page 23, next to the screen prompt `Operator Logical Page` (unless otherwise determined on IMS installation).

The MANAGER Product output buffer is determined by the IMSALI macro (see "Modifying the IMSALI Macro" on page 38). If the output is longer than this, the end of the output is lost.

If the output is satisfactory, the user can return to the Selection screen by pressing Program Function Key 2, or can return to the Sign-on screen by pressing Program Function Key 1. Pressing any other Program Function Key, (apart from Program Function Key 4, which ends the ControlManager/DataManager session), or the Enter key, displays the last user input so that the input can be corrected or changed, and resubmitted (see "The General Input Screen" on page 8 and "The Edit Screen" on page 20).

Obtaining Hard Copy

Pressing Program Function Key 12 initiates a printout of the screen image.

Ending the ControlManager/DataManager Session

The ControlManager/DataManager session can be ended by pressing Program Function Key 4.

3 Installation of the DataManager IMS/DC Interface

The Installation Tape

The DataManager IMS/DC interface is supplied on the ASG-supplied tape as:

- An additional load module in the MP.LOADLIB dataset
- An additional dataset, DM.IMS. This is an unloaded partitioned dataset containing source modules that are:
  - The macro IMSALI
  - The IMS Database Description (DBD) Control Statements for the Control Database
  - The IMS Program Specification Block (PSB) Control Statements for initializing the Control Database
  - The IMS PSB Control Statements for the Manager Product transaction
  - The IMS Message Format Source code.

Details of the ASG-supplied installation tape are given in the publication *ASG-Manager Products Installation in OS Environments*. The position of the dataset DM.IMS is given in the list of datasets provided with your ASG-supplied tape(s).

The source code in DM.IMS is provided so that the IMS/DC interface can be tailored to an installation's own requirements. However, if any local modifications are to be applied, the users changing the source code should have a good prior knowledge of IMS/DC. The modification of the IMS/DC interface source code is discussed separately in Chapter 4, "Modifying the DataManager IMS/DC Interface," on page 35.

The process of installing the DataManager IMS/DC interface comprises:

- Installing the batch versions of ControlManager/DataManager as described in the publication *ASG-Manager Products Installation in OS Environments*.
- Creating the MP-AID and dictionaries using the installed batch versions.
- Installing the IMSALI macro and tailoring it to installation requirements. Note that the names of all dictionaries to be accessed must be stated as values of the DNAME parameter (see "Modifying the IMSALI Macro" on page 38).
- Control block generation.
- Loading the Control Database.
- IMS system definition.
- Message format generation.

Control Block Generation

Program Specification Block (PSB) generation must be executed for the source modules DMRO1MSP and DMRO1DDL from DM.IMS. Suitable job control is:

```
//STEP 1   EXEC  PSBGEN,MBR=DMR01MSP
//C.SYSIN  DD    DSN=DM.IMS(DMR01MSP),DISP=SHR
//STEP2    EXEC  PSBGEN,MBR=DMR01DDL
//C.SYSIN  DD    DSN=DM.IMS(DMR01DDL),DISP=SHR
```

Database Description (DBD) generation must be executed for the source module DMR01DD from DM.IMS. Suitable job control is:

```
//STEP3   EXEC  DBDGEN,MBR=DMR01DD
//C.SYSIN DD    DSN=DM.IMS(DMR01DD),DISP=SHR
```

Application Control Block (ACB) generation must be executed for the PSB DMR01DC and for the DBD DMR01DD. Suitable job control is:

```
//STEP4    EXEC  ACBGEN
//G.SYSIN  DD    *
          BUILD  PSB=ALL
/*
```

Loading The Control Database

The Control Database is loaded by the IBM utility program DFSDDLT0. Suitable job control is given in Figure 21 on page 33, where *dsn* is the dataset name. Further, in the L statements the three fields should start in columns 1, 10, and 16 respectively.

```
//LOAD     EXEC  PGM=DFSRRC00,PARM='DLI,DFSDDLTO,DMR01DDL'
//STEPLIB  DD    DSN=IMSVS.RESLIB,DISP=SHR
//IMS      DD    DSN=IMSVS.PSBLIB,DISP=SHR
//         DD    DSN=IMSVS.DBDLIB,DISP=SHR
//IEFRDER  DD     DUMMY
//PRINTDD  DD     SYSOUT=A
//DMR01DD  DD     DSN=dsn,UNIT=3350,SPACE=(CYL,(8,1)),
//         DISP=(NEW.CATLG,DELETE)
//SYSIN    DD     *
L         ISRT    LTERM01
L         DATA    MSP
```

Figure 21. Job Control for Loading the Control Database

System Definition

These system macros must be added to the IMS Stage I system generation input:

```
APPLICTN PSB=DMR01MSP,PGMTYPE=TP
TRANSACT CODE=DMR0lMSP,MSGTYPE=(SNGLSEG,RESPONSE,01) MODE=SNGL
DATABASE DBD=DMR01DD
```

The TRANSACT macro is set to process any number of transactions in a single scheduling. If a limit is required on the number of transactions that can be processed per scheduling, the PROCLIM parameter must be included in the TRANSACT macro.

These statements should be added to the job control for the IMS message region in which ControlManager/DataManager will execute:

For the MP-AID:

```
//MPAID  DSN=CMR.MPAID, DISP=SHR,
//       UNIT=uuuu,VOL=SER=vvvvvv
```

For each dictionary to be accessed:

```
//ddict  DD        DSN=DICT.INDEX.DISP=SHR,
//       UNIT=uuuu.VOL=SER=vvvvvv
//ddictD DD        DSN=DICT.DATA.ENTRIES,DISP=SHR,
//       UNIT=uuuu,VOL=SER=vvvvvv
//ddictS DD        DSN=DICT.SOURCE,DISP=SHR,
//       UNIT=uuuu,VOL=SER=vvvvvv
//ddictE DD        DSN=DICT.RECOVER,DISP=SHR,
//       UNIT=uuuu,VOL=SER=vvvvvv
//ddictJ DD        DSN=DICT.LOG,DISP-SHR,
//       UNIT=uuuu,VOL=SER=vvvvvv
```

where:

ddict is the name of the dictionary to be accessed

uuuu is any valid disk device type

vvvvvv is the serial number of the relevant disk.

If the logging facility is not in use for the dictionary then the job control statements for the log dataset (ddictJ) must be omitted.

The following statement should be added to the IMS control region job control:

```
//DMR01DD    DD   DSN=dsn,DISP=OLD
```

Module DMR0lMSP must be preloaded into the message region by adding the module name DMR01MSP to the DFSMPLXX dataset.

The following must be added to the IMS Message Region STEPLIB job control statement:

```
//       DD   DSN=MP.LOADLIB,DISP=SHR
```

Message Format Generation

DataManager screens are added to the FORMAT library by processing DataManager MFS source through the Message Format Utility. This can be accomplished with the following job control:

```
//STEP1  EXEC  MFSUTL,NODE=DM,SOR=IMSVS,MBR=MFSOTH
//STEP2  EXEC  MFSUTL,NODE=DM,SOR=IMSVS,MBR=MFSALI
```

4 Modifying the DataManager IMS/DC Interface

Introduction

Some of the IMS source code may be changed without any effect on DataManager or ControlManager. There are, however, some changes to IMS source which, if made, will affect DataManager and/or ControlManager.

Users are warned that if they make modifications to the IMS/DC interface for one release of DataManager, they should re-examine and if necessary rework them in the light of any changes to the supplied source code, before applying them to a later release.

Modifying Message Formats

The area most likely to be changed is the specific alias types' names and lengths for the Alias screen (see "The Alias Screen" on page 12). To make the changes, first change the Message Format Service (MFS) source for the screen DMALF, which may be found as member MFSALI in the dataset DM.IMS. For convenience the source is listed in Figure 22 on page 37.

If the alias types and the lengths permitted to each alias name are changed, the DataManager macro IMSALI must also be updated and assembled (see "Modifying the IMSALI Macro" on page 38).

As an example of modifying message formats, the lines listed below illustrate the changes that would have to be made to the source listed in Figure 22 on page 37, in order to remove the specific alias types ADABAS and TOTAL and add the specific alias types JCL and DATASET:

```
...
00100        MFLD     DNJCL,LTH=8
00110        MFLD     DNDSET,LTH=26
...
00260        MFLD     DMJCL,LTH=8
00270        MFLD     DMDSET,LTH=26
...
00600        DFLD     'JCL',POS=(7,1)
00610        DFLD     'DATASET',POS(7,42)
...
00660 DMJCL  DFLD     POS=(7,7),LTH=8
00670 DMDSET DFLD     POS=(7.52),LTH=26
...
```

MFS source for other DataManager IMS/DC screens may also be changed, but care must be taken not to modify the MID or the MOD in any way that will affect the flow of data to the DataManager IMS/DC interface.

```
00010  DMALIN   MSG     TYPE=INPUT,SOR=(DMALF,IGNORE),OPT=1,NXT=DMALOU
00020  DMALINS1 SEG
00030           MFLD    (TRANCODE,'DMR01MSP')
00040           MFLD    DMPFK,LTH=3
00050           MFLD    (DMSCRN,'ALIA')
00060           MFLD    DMCOBA,LTH=32
00070           MFLD    DMASSA,LTH=8
00080           MFLD    DMPLIA,LTH=32
00090           MFLD    DMIMSA,LTH=8
00100           MFLD    DMTOTA,LTH=8
00110           MFLD    DMADAA,LTH=2
00120           DO      10
00130           MFLD    DMDATA,LTH=71
00140           ENDO
00150           MSGEND
00160  DMALOU   MSG     TYPE=OUTPUT,SOR=(DMALF,IGNORE),OPT=1,NXT=DMALIN
00170  DMALOS1  SEG
00180           MFLD    (DMDATE,DATE4)
00190           MFLD    (DMRIME,TIME)
00200           MFLD    TRANCODE,LTH=9
00210           MFLD    DMSCRN,LTH=4
00220           MFLD    DMCOBA,LTH=32
00230           MFLD    DMASSA,LTH=8
00240           MFLD    DMPLIA,LTH=32
00250           MFLD    DMIMSA,LTH=8
00260           MFLD    DMTOTA,LTH=8
00270           MFLD    DMADAA,LTH=2
00280           DO      10
00290           MFLD    DMDATA,LTH=71
00300           ENDDO
00310           MFLD    DMMSG1,LTH=76
00320           MSGEND
00330  DMALF    FMT     ALIAS SCREEN
00340           DEV     TYPE=(3270,2),FEAT=IGNORE,)
```

```
00350                    PFK=DMPFK,'ION','SEL','PRT','END','FOR','BKW')
00360            DIV     TYPE=INOUT
00370            DPAGE   CURSOR=((5,7)),FILL=PT
00380            DFLD      'DATE=',POS=(1,3)
00390  DMDATE    DFLD    POS=(1,10),LTH=8,ATTR=PROT
00400  TRANCODE  DFLD    POS=(l.21),ATTR=(PROT,NODISP),LTH=9
00410  DMSCRN    DFLD    POS=(1,31),ATTR=(PROT,NODISP),LTH=4
00420            DFLD    'TIME=',POS=(1,66)
00430  DMTIME    DFLD    POS=(1,73),LTH=8,ATTR=PROT
00440            DFLD    'DataManager',P0S=(2,30)
00450            DFLD    'ALIAS',POS=3,38)
00460            DFLD    '1',POS=(9,1)
00470            DFLD    '2',POS=(10,1)
00480            DFLD    '3',POS=(11,1)
00490            DFLD    '4',POS=(12,1)
00500            DFLD    '5',POS=(13,1)
00510            DFLD    '6',POS=(14,1)
00520            DFLD    '7',P0S=(15,1)
00530            DFLD    '8',P0S=(16,1)
00540            DFLD    '9',POS=(17,1)
00550            DFLD    '10',POS=(18,1)
00560            DFLD    'COBOL',P0S=(5,1)
00570            DFLD    'ASSEMBLER',P0S=(5,42)
00580            DFLD    'PL/I',P0S=(6,1)
00590            DFLD    'IMS',P0S=(6,42)
00600            DFLD    'TOTAL',POS=(7,1)
00610            DFLD    'ADABAS',P0S=(7,42)
00620  DMCOBA    DFLD    POS=(5,7),LTH=32
00630  DMASSA    DFLD    POS=(5,52),LTH=8
00640  DMPLIA    DFLD    POS=(6,7),LTH=32
00650  DMIMSA    DFLD    POS=(6,52),LTH=8
00660  DMTOTA    DFLD    POS=(7,7),LTH=8
00670  DMADAA    DFLD    POS=(7,52),LTH=2
00680            DO      10
00690  DMDATA  POS=(9,4),LTH=71
00700            ENODO
00710  DMMSG1    DFLD    POS=(24,1),LTH=71
00720            FMTEND
00730            END
```

Figure 22. Listing of Source Module MFSALI in the Database DM.IMS

Modifying the Control Database

As supplied, the IMS/DC interface uses HDAM/OSAM as the access method for the Control Database, and uses the IBM randomizing module DFSHDC40. You may change the DBD source, which can be found in DM.IMS as source module DMR0lDD. The only restriction is that the access method must be a direct access method (HDAM, HIDAM, or HISAM). If the DBD is changed, the database load described in "Loading The Control Database" on page 32 and the DBD and ACB procedures in "Control Block Generation" on page 32, must be re-executed.

It is suggested that the user leaves the access method as HDAM so that a reorganization is never required. If the user chooses to use one of the Indexed access methods for this database it is easier to reinitialize the database rather than to reorganize it. When using an Indexed access method it is best to reinitialize each day before the IMS system is brought up.

Modifying the IMSALI Macro

If any changes are made to the Alias screen, DMALF, (see "Modifying Message Formats" on page 35), then the DataManager macro IMSALI must be updated, and assembled. The keywords of this macro and their permissible values are shown in the table later in this section.

The values declared for the ATYPE*n* keywords must be the same as the literals used for the MFS DFLD macro. The *n* in the ATYPE*n* keywords defines the order in which the aliases of the types stated in the values of these keywords are presented to the IMS/DC interface. This order is defined to MFS by the Message Input Descriptor (MID) and the Message Output Descriptor (MOD). The order defined by the ATYPE*n* keywords in IMSALI must therefore correspond to the order defined by the MID and MOD in the MFS MFLD and DFLD macros of MFSALI (as listed in Figure 22 on page 37).

All keywords declared or defaulted as values of ATYPE*n* keywords in the installed version of IMSALI must appear also among the keywords declared or defaulted as values of the ALIAS*n* keywords in the installed version of the DALIAS macro. (For the DALIAS macro, see the publication *ASG-Manager Products Installation in OS Environments*.) This condition is satisfied by the supplied forms of the macros IMSALI and DALIAS; if either of these macros is tailored for the installation, the Systems Administrator should check that the condition remains satisfied.

The ALEN*n* keywords' values specify to the DataManager IMS/DC interface the lengths of the fields provided on the Alias screen for the aliases related to the corresponding ATYPE*n* keywords. These values must specify the same lengths as are specified in the MFS MFLD and DFLD macros.

The Macro IMSALI: Keywords Specifiable on Installation

Keyword	Specifies	Default Value	Alternative Values
ATYPE1	A specific alias type keyword that is to be displayed on the Alias screen. The numeric element of each keyword defines the order in which aliases of the types specified by the keywords' values are presented to the DATAMANAGER IMS/DC interface module.	'COBOL'	A delimited character string of up to 32 characters, or empty.
ATYPE2		'ASSEMBLER'	
ATYPE3		'PL/I'	
ATYPE4		'IMS'	
ATYPE5		'TOTAL'	
ATYPE6		'ADABAS'	
ATYPE7 thru ATYPE16		Empty	A delimited character string of up to 32 characters.
ALEN1	The length of the field provided on the Alias screen for the alias to which the correspondingly numbered ATYPEn keyword relates.	32	An unsigned integer in the range 1 to 70.
ALEN2		8	
ALEN3		32	
ALEN4		8	
ALEN5		8	
ALEN6		2	
ALEN7 thru ALEN16		70	
INLEN	Maximum number of lines of a member than can held for updating via the Edit screen (during ADD, INSERT, MODIFY, ALTER and REPLACE).	299	An unsigned integer in the range 1 to 99999.
OUTLN	Maximum number of lines that can be held as output when generated by a DATAMANAGER or CONTROLMANAGER command.	none	An unsigned integer in the range 1 to 99999.
DNAME	Dictionaries that may be accessed via the IMS/DC message region. These names must match the dictionary names specified in the System Definition (see section 3.4). Any number of dictionaries may be specified in the format (DD1, DD2, DD3, ...).	none	Any valid dictionary names separated by commas.

If the supplied default values of all the keywords of the IMSALI macro are acceptable, no further action need be taken in respect of the macro. If any values are to be changed, the macro must be submitted to the Assembler, with required values declared for those keywords whose values are to be changed: it is not necessary to declare any keywords whose supplied default values are acceptable. The Assembler output must then be link edited to produce a load module. The macro assembles as the DataManager module DMALI.

Example job control statements for achieving this are given in Figure 23 on page 40. These job control statements could follow those stated in the publication *ASG-Manager Products Installation in OS Environments*, and must be followed by those stated in "Control Block Generation" on page 32.

```
//CHANGE         JOB     A
//DMALI          EXEC    ASMFCL,
//               PARM.LKED='XREF,LIST,LET,MAP,NCAL,REUS'
//ASM.SYSLIB     DD      DSN=DM.IMS,DISP=SHR
//               UNIT=uuuu,VOL=SER=vvvvvv
//ASM.SYSIN      DD      *
       IMSALI     keyword=value[,keyword=value]...
       END
//LKED.SYSLMOD   DD              DSN=MP.LOADLIB(DMALI),
//               DISP=OLD,UNIT=uuuu,VOL=SER=vvvvvv
```

Figure 23. Job Control for Producing Load Module DMALI

In Figure 23 on page 40:

uuuu is any valid disk device type

vvvvvv is the serial number of the relevant disk

keyword is a keyword defined as shown in the table given earlier in this section

value is any of the alternative values permitted for the keyword

MP.LOADLIB is the user's MANAGER Products load library.

As many keywords as are required to have their values changed can be declared in the macro call, in any order.

The IMSALI macro, and hence the module DMALI, can be retailored at any time, by submitting a job as described in this section. If the module DMALI is retailored, the tailoring is again of the module as supplied, not of the module as last tailored.

Example

To tailor IMSALI to conform with the changes made to the Alias screen by the example in "Modifying Message Formats" on page 35, the following declaration would be needed:

```
IMSALI   ATYPE5='JCL',ATYPE6='DATASET',ALEN6=26
```

The macro DALlAS (see the publication *ASG-Manager Products Installation in OS Environments*) would also have to be tailored with this declaration:

```
DALIAS   ALIAS13='JCL',ALIAS=11='DATASET'
```

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